SONY

4-090-586-**11**(1)

409058611

FD Trinitron Colour Television

Instruction Manual

GB

KV-32LS60U
KV-28LS60U

© 2002 by Sony Corporation

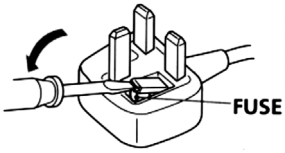
NOTICE FOR CUSTOMERS IN THE UNITED KINGDOM

A moulded plug complying with BS1363 is fitted to this equipment for your safety and convenience.

Should the fuse in the plug supplied need to be replaced, a 5 AMP fuse approved by ASTA or BSI to BS 1362 (i.e. marked with ⓐ or ⓑ) must be used.

When an alternative type of plug is used it should be fitted with a 5 AMP FUSE, otherwise the circuit should be protected by a 5 AMP FUSE at the distribution board.

If the plug supplied with this equipment has a detachable fuse cover, be sure to attach the fuse cover after you change the fuse. Never use the plug without the fuse cover. If you should lose the fuse cover, please contact your nearest Sony service centre.



How to replace the fuse

Open the fuse compartment with a blade screwdriver, and replace the fuse.

- **IMPORTANT**

  If the plug supplied is not suitable for the socket outlets in your home, it should be cut off and an appropriate plug fitted in accordance with the following instructions:

  The wires in this mains lead are coloured in accordance with the following code:

  Blue Neutral

  Brown Live

  As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

  The wire which is coloured blue must be connected to the terminal which is marked with the letter N or coloured black. The wire which is coloured brown must be connected to the terminal which is marked with the letter L or coloured red. Do not connect either wire to the earth terminal in the plug which is marked by the letter E or by the safety earth symbol ⏚ or coloured green or green and yellow.

WARNING

- To prevent shock hazard, do not insert the plug cut off from the mains lead into a socket outlet. This plug cannot be used and should be destroyed.

- To prevent fire or shock hazard, do not expose the unit to rain or moisture.

- Dangerously high voltages are present inside the set. Do not open the cabinet. Refer servicing to qualified personnel only.

Introduction

Thank you for choosing this Sony FD Trinitron Colour Television.

Before operating the TV, please read this manual thoroughly and retain it for future reference.

- Symbols used in the manual:
  - ⚠ Important information
  - ⓘ Information on a feature.
  - **1,2...** Sequence of instructions.
  - Shaded buttons on the remote control show you the buttons you have to press to follow the sequence of the instructions.
  - Informs you of the result of instructions.

Table of Contents

Notice for Customers in the United Kingdom 2
Introduction 3
Safety Information 4

Overview

Overview of Remote Control Buttons 5
Overview of TV Buttons 6

Installation

Inserting Batteries into the Remote Control 6
Connecting the Aerial and VCR 6

First Time Operation

Switching On the TV and Automatically Tuning 7

Menu system

Introducing and Using the Menu System 9
Menu Guide:
- Picture Adjustment 9
- Sound Adjustment 10
- Sleep Timer 11
- Language 11
- Auto Tuning 11
- Programme Sorting 12
- Programme Labels 12
- AV Preset 12
- Manual Programme Preset 13
- Noise Reduction 14
- Auto Format 14
- AV3 Output 15
- TV Speakers 15
- RGB Centring 15
- Picture Rotation 16

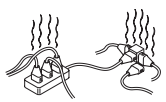
Teletext 17

Additional Information

Connecting Optional Equipment 18
Using Optional Equipment 19
Remote Control Configuration for VCR/DVD 20
Specifications 21
Troubleshooting 22
Television Channel Guide for United Kingdom 23

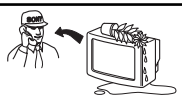
GB

Safety Information



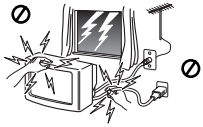
This set is to operate on a 220-240V AC supply only. Take care not to connect too many appliances to the same power socket as this could result in fire or electric shock.

For environmental and safety reasons, it is recommended that the TV set is not left in standby mode when not in use. Disconnect from the mains.

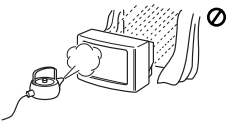


Never push objects of any kind into the set as this could result in a fire or electric shock. Never spill liquid of any kind on the set. If any liquid or solid object does fall through, do not operate the TV. Have it checked immediately by qualified personnel.

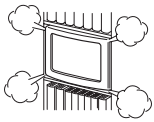
Do not open the cabinet and the rear cover of the TV. Refer to qualified service personnel only.



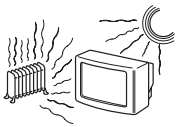
For your own safety, do not touch any part of the TV, power lead or aerial lead during lightning storms.



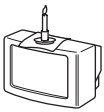
To prevent fire or shock hazard, do not expose the TV to rain or moisture.



Do not cover the ventilation openings of the TV For ventilation, leave a space of at least 10cm all around the set.

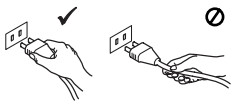


Never place the TV in hot, humid or excessively dusty places. Do not install the TV where it may be exposed to mechanical vibrations.

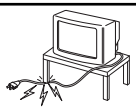


To prevent fire, keep inflammable objects or naked lights (eg candles) away from the TV.

Clean the TV with a soft, lightly dampened cloth. Do not use benzine, thinner or any other chemicals to clean the TV. Do not scratch the TV screen. As a safety precaution, unplug the TV before cleaning it.



Pull out the power lead by the plug. Do not pull on the power lead itself.



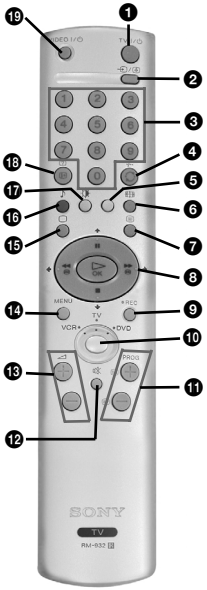
Take care not to place heavy objects on the power lead as this could result in damage.
We recommend you wind any excess lead around the holders provided on the rear of the TV.

Place the TV on a secure stable stand. Do not allow children to climb on to it. Do not place the TV on its side or face up.

Unplug the power lead before moving the TV. Avoid uneven surfaces, quick steps or excessive force. If the set has been dropped or damaged, have it checked immediately by qualified service personnel.

Do not cover the ventilation openings of the TV with items such as curtains or newspapers etc.

Overview of Remote Control Buttons



❶ To Temporarily Switch Off TV:
Press this button to temporarily switch off TV (the standby indicator ⏻ on the TV lights up). Press again to switch on TV from standby mode.
To save energy we recommend switching off completely when TV is not in use.
⚠ After 15 minutes without a signal and without any button being pressed, the TV switches automatically into standby mode.

❷ Selecting input source: Press this button repeatedly until the desired input symbol of the source appears on the TV screen.

❸ Selecting channels:
If Media Selector is switched to TV or VCR, press this button to select channels.
For double-digit programme numbers, enter the second digit within 2.5 seconds.

❹ a) If Media Selector is switched to TV:
Press this button to watch the last channel selected (the last channel watched for at least 5 seconds).

b) If Media Selector is switched to VCR:
For Sony's VCR double-digit programme numbers, e.g. 23, press -/- - first and then the buttons 2 and 3.

❺ *This button only works in Teletext mode.*

❻ Selecting screen format: Press this button repeatedly to change the format of the screen. For more details refer to chapter "Auto Format" on page 14.

❼ Selecting Teletext: Press this button to switch on teletext.

❽ a) If Media Selector is switched to TV:
- When MENU is switched on, use these buttons to operate the menu system. For details refer to "Introducing and Using the Menu System" on page 9.
- When MENU is switched off, press OK to show a channel overview. Then press ▼ or ▲ to select the channel and then press again the OK button to watch the selected channel.

b) If Media Selector is switched to VCR or DVD:
Using these buttons you can control the main functions of your VCR or DVD.

❾ Recording button: If Media Selector is switched to VCR, press this button to record programmes.

❿ Media Selector:
With this remote control you can operate not only this TV but also the main functions of your VCR or DVD. Switch on the device you want to operate and next press this button repeatedly to select the VCR, TV or DVD. A green light will be momentarily lit to indicate the chosen function.
⚠ Before the first time you want to control a DVD or VCR by using this remote control, you have to set it up depending on the brand of the device to be used. For more details, refer to chapter "Remote Control Configuration for VCR or DVD" on page 20.

⓫ Selecting channels: Press this button to select the next or previous broadcast channel.

⓬ Muting the Sound: Press this button to mute TV sound. Press again to restore the sound.

⓭ Adjusting TV volume: Press this button to adjust the volume of the TV.

⓮ Displaying the menu system: Press this button to display the menu on the TV screen. Press again to remove the menu display from the TV screen.

⓯ Selecting TV mode: Press this button to switch off teletext or video input.

⓰ Selecting Sound effect: Press this button repeatedly to change the sound effect.

⓱ Selecting Picture mode: Press this button repeatedly to change the picture mode.

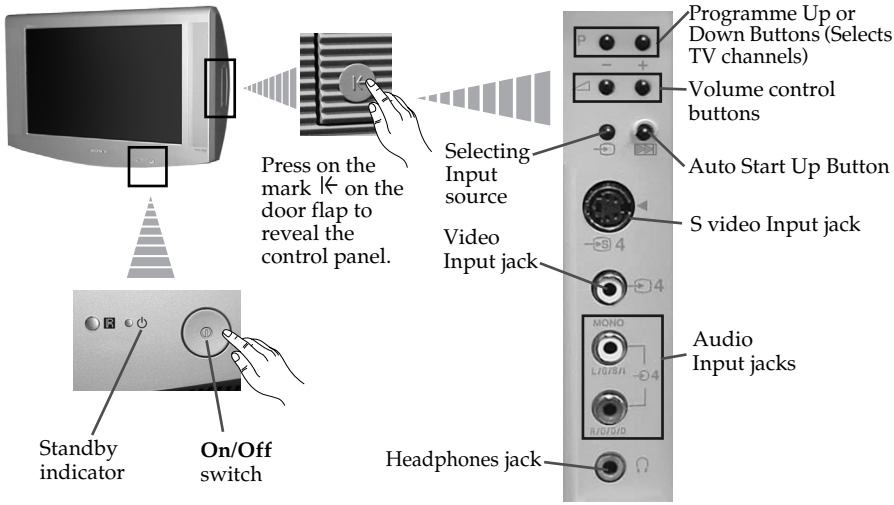
⓲ Displaying on Screen information: Press this button to display all on-screen indications. Press again to cancel.

⓳ VCR or DVD on/off: Press this button to switch your VCR or DVD on or off.

ⓘ Besides TV functions, all coloured buttons as well as green symbols are also used for Teletext operation. For more details, please refer to "Teletext" section of this instruction manual.

GB

Overview of TV Buttons

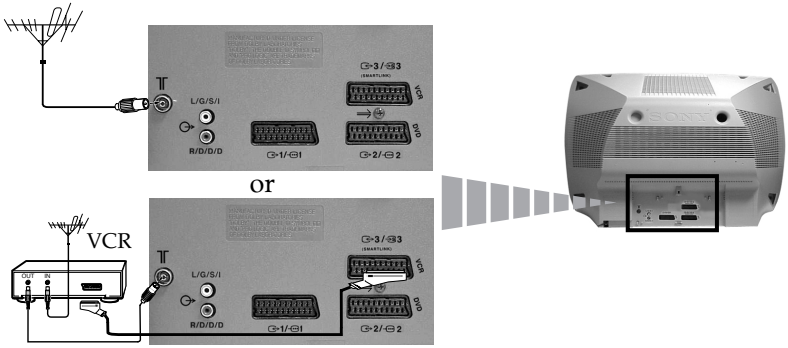

Programme Up or Down Buttons (Selects TV channels)
Volume control buttons
Auto Start Up Button
S video Input jack
Audio Input jacks
Headphones jack
Selecting Input source
Video Input jack
Press on the mark on the door flap to reveal the control panel.
Standby indicator
On/Off switch

Inserting Batteries into the Remote Control

Make sure you insert the supplied batteries using the correct polarities.
Always remember to dispose of used batteries in an environmental friendly way.

Connecting the Aerial and VCR

Connecting cables are not supplied.



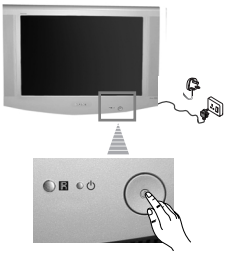
Scart lead is optional.

For more details of VCR connection, please refer to the section "Connecting Optional Equipment" of this instruction manual.

Switching On the TV and Automatically Tuning

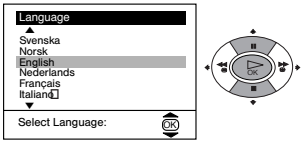
The first time you switch on your TV, a sequence of menu screens appear on the TV enabling you to: 1) choose the language of the menu screen, 2) adjust the picture slant, 3) search and store all available channels (TV Broadcast) and 4) change the order in which the channels (TV Broadcast) appear on the screen.
However, if you need to change any of these settings at a later date, you can do that by selecting the appropriate option in the (Set Up menu) or by pressing the Auto Start Up Button on the TV set.

1 Connect the TV plug to the mains socket (220-240V AC, 50Hz)
The first time that the TV set is connected, it is usually turned on. If the TV is off, press the on/off button on the TV set to turn on the TV.
The first time you switch on the **TV**, a **Language** menu displays automatically on the TV screen.



GB

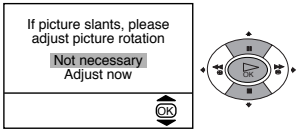
2 Press the or button on the remote control to select the language, then press the **OK** button to confirm your selection. From now on all the menus will appear in the selected language.



3 Because of the earth's magnetism, the picture might slant. The **Picture Rotation** menu allows you to correct the picture slant if it is necessary.

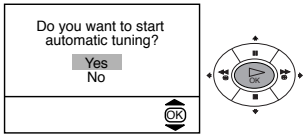
a) If it is not necessary, press or to select **Not necessary** and press **OK**.

b) If it is necessary, press or to select **Adjust now**, then press **OK** and correct any slant of the picture between –5 and +5 by pressing or . Finally press **OK** to store.

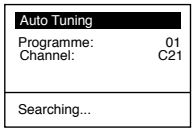


continued...

4 The Auto Tuning menu appears on the screen. Press the **OK** button to select **Yes**.



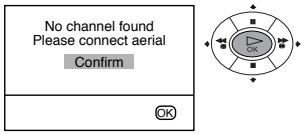
5 The TV starts to automatically search and store all available broadcast channels for you.



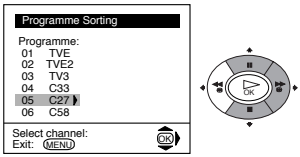
⚠ This procedure could take some minutes. Please be patient and do not press any buttons, otherwise the automatic tuning will not be completed.

ⓘ In some countries the TV Broadcaster installs the channels automatically (ACI system). In this case, the TV Broadcaster sends a menu in which you can select your city by pressing the ▼ or ▲ button and **OK** to store the channels.

⚠ If no channels were found during the auto tuning process then a new menu appears automatically on the screen asking you to connect the aerial. Please connect the aerial (see page 6) and press **OK**. The auto tuning process will start again.



6 ⓘ After all available channels are captured and stored, the **Programme Sorting** menu appears automatically on the screen enabling you to change the order in which the channels appear on the screen.



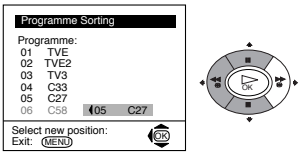
a) If you wish to keep the broadcast channels in the tuned order, go to step 7.

b) If you wish to store the channels in a different order:

1 Press the ▼ or ▲ button to select the programme number with the channel (TV Broadcast) you wish to rearrange, then press the ▶ button.

2 Press the ▼ or ▲ button to select the new programme number position for your selected channel (TV Broadcast), then press ◀ .

3 Repeat steps b)1 and b)2 if you wish to change the order of the other channels.



7 Press the **MENU** button to remove the menu from the screen.

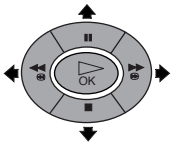
Your TV is now ready for use

Introducing and Using the Menu System

Your TV uses an on-screen menu system to guide you through the operations. Use the following buttons on the Remote Control to operate the menu system:

1 Press the **MENU** button to switch the first level menu on.

2
- To highlight the desired menu or option, press ↓ or ↑.
- To enter to the selected menu or option, press →.
- To return to the last menu or option, press ←.
- To alter settings of your selected option, press ↓ / ↑ / ← or →.
- To confirm and store your selection, press **OK**.

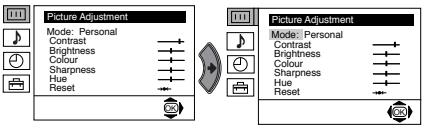


3 Press the **MENU** button to remove the menu from the screen.

GB

Menu Guide

Level 1	Level 2	Level 3 / Function



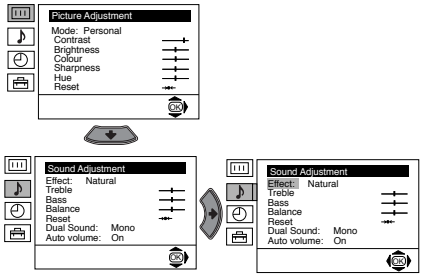
PICTURE ADJUSTMENT
The "Picture Adjustment" menu allows you to alter the picture adjustments.

To do this: after selecting the item you want to alter press →, then press repeatedly ↓ / ↑ / ← or → to adjust it and finally press **OK** to store the new adjustment.
This menu also allows you to customise the picture mode based on the programme you are watching:
- ↓ **Live** (for live broadcast programmes, DVD and Digital Set Top Box receivers).
- ↓ **Personal** (for individual settings).
- ↓ **Movie** (for films).

- ***Brightness, Colour*** *and* ***Sharpness*** *can only be altered if "Personal" mode is selected.*
- ***Hue*** *is only available for NTSC colour signal (e.g: USA video tapes).*
- *Select* ***Reset*** *and press* ***OK*** *to reset the picture to the factory preset levels.*

continued...

Level 1	Level 2	Level 3 / Function



SOUND ADJUSTMENT

The "Sound Adjustment" menu allows you to alter the sound adjustments.

To do this: after selecting the item you want to alter, press ↓. Then press repeatedly ↓ / ↑ / ← or → to adjust it and finally press **OK** to store the new adjustment.

Effect →
- ↓ **Natural:** Enhances clarity, detail and presence of sound by using "BBE High Definition Sound system"*.
- ↓ **Dynamic:** "BBE High Definition Sound system"* intensifies clarity and presence of sound for better intelligibility and musical realism.
- ↓ **Dolby******Virtual:** Simulates the sound effect of "Dolby Surround Pro Logic".
- ↓ **Off:** Flat response.

Treble → ← Less → More

Bass → ← Less → More

Balance → ← Left → Right

Reset (OK) Resets the sound to the factory preset levels.

Dual Sound →
- *For a stereo broadcast:*
  - ↓ **Mono**.
  - ↓ **Stereo**.
- *For a bilingual broadcast:*
  - ↓ **Mono** (for mono channel if available).
  - ↓ **A** (for channel 1).
  - ↓ **B** (for channel 2).

Auto Volume →
- ↓ **Off:** volume level changes according to the broadcast signal.
- ↓ **On:** volume level of the channels will stay the same, independent of the broadcast signal (e.g. in the case of advertisements).

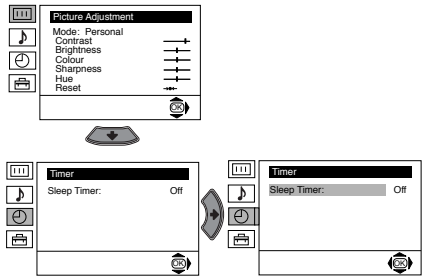
- *If you are listening to the TV through headphones, the "Effect" option will automatically be switched to "Off".*
- *If you select "Dolby Virtual" on the "Effect" option, the "Auto Volume" option will automatically be switched to "Off" and vice versa.*

* *The "BBE High Definition Sound system" is manufactured by Sony Corporation under license from BBE Sound, Inc. It is covered by U.S. Patent No. 4,638,258 and No. 4,482,866. The word "BBE" and BBE Symbol are trademarks of BBE Sound, Inc.*

** *This TV has been designed to create the "Dolby Surround" sound effect by simulating the sound of four speakers with two speakers, when the broadcast audio signal is Dolby Surround encoded. The sound effect can also be improved by connecting a suitable external amplifier (for details refer to "Connecting to external audio Equipment" on page 19).*

** *Manufactured under license from Dolby Laboratories. "Dolby", "Pro Logic" and the double-D symbol ⧫⧫ are trademarks of Dolby Laboratories.*

continued...

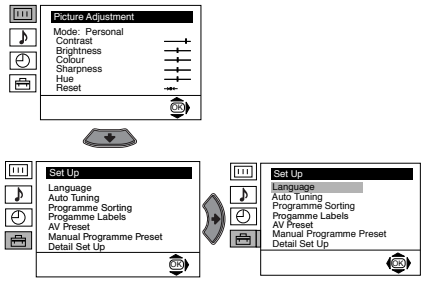


SLEEP TIMER

The "Sleep Timer" option in the "Timer" menu allows you to select a time period for the TV to switch itself automatically into the standby mode.

To do this: after selecting the option press ➔, then press ↓ or ↑ to set the time period delay (max. of 4 hours).

- *While watching the TV, you can press the i+ button on the remote control to display the time remaining.*
- *One minute before the TV switches itself into standby mode, the time remaining is displayed on the TV screen automatically.*

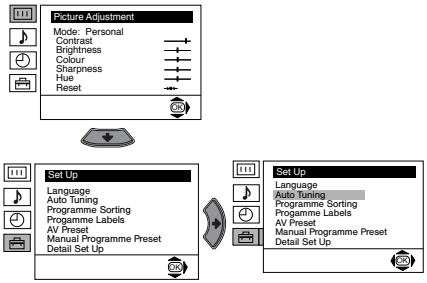


LANGUAGE

The "Language" option in the "Set Up" menu allows you to select the language that the menus are displayed in.

To do this: after selecting the option, press ➔ and then proceed in the same way as in the step 2 of the section "Switching On the TV and Automatically Tuning" on page 7.

GB

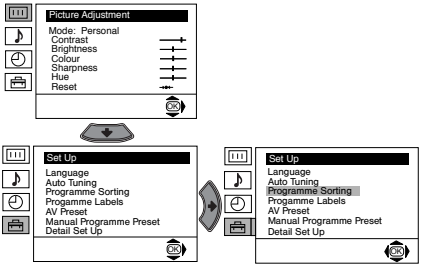


AUTO TUNING

The "Auto Tuning" option in the "Set Up" menu allows you to automatically search for and store all available TV channels.

To do this: after selecting the option, press ➔ and then proceed in the same way as in the steps 4 and 5 of the section "Switching On the TV and Automatically Tuning" on page 8.

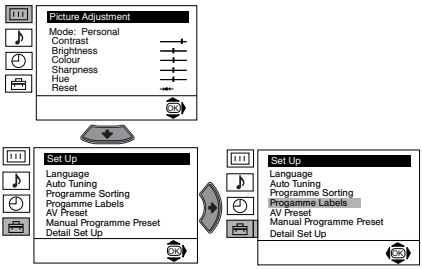
continued...



PROGRAMME SORTING

The "Programme Sorting" option in the "Set Up" menu allows you to change the order in which the channels (TV Broadcast) appear on the screen.

To do this: after selecting the option, press ➔ and then proceed in the same way as in step 6 b) of the section "Switching On the TV and Automatically Tuning" on page 8.



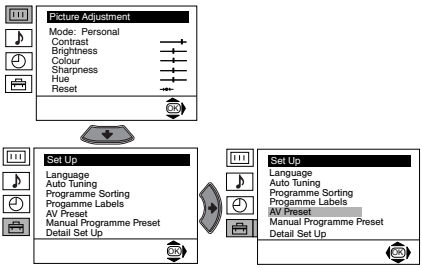
PROGRAMME LABELS

The "Programme Labels" option in the "Set Up" menu allows you to name a channel using up to five characters (letters or numbers).

To do this:

1 After selecting the option, press ➔, then press ↓ or ↑ to select the programme number with the channel you wish to name.

2 Press ➔. With the first element of the **Label** column highlighted, press ↓ or ↑ to select a letter or number (select "-" for a blank), then press ➔ to confirm this character. Select the other four characters in the same way. Finally press **OK** to store.



AV PRESET

The "AV Preset" option in the "Set Up" menu allows you to designate a name to the external equipment you have connected to the input sockets of this TV.

To do this:

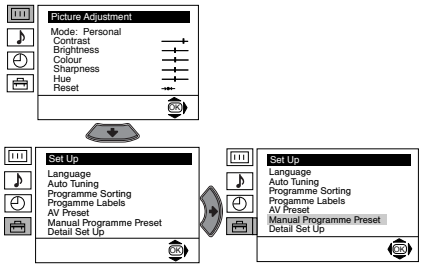
1 After selecting the option, press ➔, then press ↓ or ↑ to select the input source you wish to name (**AV1, AV2** and **AV3** are for the rear Scarts and **AV4** for side connectors). Then press ➔.

2 A label automatically appears in the label column:

a) If you want to use one of the 6 predefined label (**CABLE, GAME, CAM, DVD, VIDEO** or **SAT**), press ↓ or ↑ to select the desired label and finally press **OK** to store.

b) If you want to set a different label, select **Edit** and press ➔. Then with the first element highlighted, press ↓ or ↑ to select a letter, number or "-" for a blank, then press ➔ to confirm this character. Select the other four characters in the same way and finally press **OK** to store.

continued...



MANUAL PROGRAMME PRESET

The "Manual Programme Preset" option in the "Set Up" menu allows you to:

a) Preset channels or the VCR channel one by one to the programme order of your choice. To do this:

1 After selecting the "Manual Programme Preset" option, press ➡ then with **Programme** option highlighted press ➡. Press ⬇ or ⬆ to select on which programme number you want to preset the channel (for VCR, select programme number "0"). Then press ⬅.

2 After selecting the **Channel** option, press ➡. Then press the number buttons to enter directly the channel number of the TV Broadcast or the channel of the VCR signal. If you do not know the channel number, press ⬇ or ⬆ to search for it. When you tune the desired channel, press **OK** twice to store.

Repeat all the above steps to tune and store more channels.

b) Label a channel using up to five characters.

To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number with the channel you wish to name. When the programme you want to name appears on the screen, select the **Label** option and press ➡. Next press ⬇ or ⬆ to select a letter, number or "-" for a blank. Press ➡ to confirm this character. Select the other four characters in the same way. After selecting all the characters, press **OK** twice to store.

GB

c) Fine tune the broadcast reception. Normally the automatic fine tuning (AFT) will give the best possible picture, however you can manually fine tune the TV to obtain a better picture reception in case the picture is distorted.

To do this: while watching the channel (TV Broadcast) you wish to fine tune, select the **AFT** option and press ➡. Next press ⬇ or ⬆ to adjust the fine tuning between -15 and +15. Finally press **OK** twice to store.

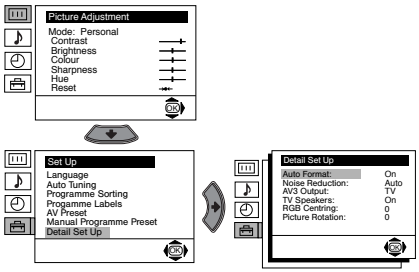
d) Skip any unwanted programme numbers when they are selected with the PROG +/- buttons.

To do this: Highlighting the **Programme** option, press the **PROG +/-** button to select the programme number you want to skip. When the programme you want to skip appears on the screen, select the **Skip** option and press ➡. Next press ⬇ or ⬆ to select **Yes**. Finally press **OK** twice to confirm and store.

To cancel this function afterwards, select "No" instead of "Yes" in the step above.

continued...

Level 1	Level 2	Level 3 / Function



AUTO FORMAT

The "Auto Format" option in the "Detail Set Up" menu allows you to automatically change the aspect ratio of the screen.

To do this: after selecting the option, press ➧. Then press ▼ or ▲ to select **On** (if you wish the TV set to automatically switch the screen format according to the broadcast signal) or **Off** (if you wish to keep your preference). Finally press **OK** to store.

Even if you have selected "On" or "Off" in the "Auto Format" option, you can always modify the format of the screen by pressing ⌗ repeatedly on the remote control to select one of the following formats:

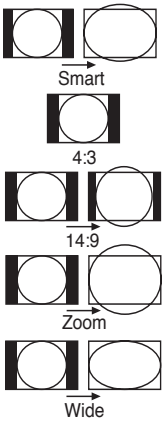
Smart: Imitation of wide screen effect for 4:3 broadcast.

4:3: Conventional 4:3 picture size, full picture information.

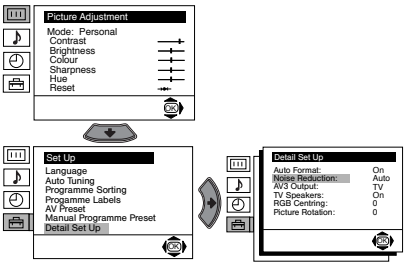
14:9: Compromise between 4:3 and 16:9 picture size.

Zoom: Widescreen format for letterbox movies.

Wide: For 16:9 broadcast. Full picture information.



In "Smart", "Zoom" and "14:9" modes, parts of the top and bottom of the screen are cut off. Press ▼ or ▲ to adjust the position of the image on the screen (e.g. to read subtitles).



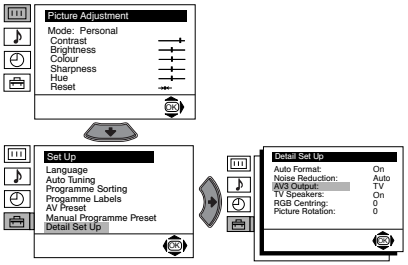
NOISE REDUCTION

The "Noise Reduction" option in the "Detail Set Up" menu allows you to automatically reduce the picture noise visible in the broadcast signal.

To do this: after selecting the option, press ➧. Then press ▼ or ▲ to select **Auto**. Finally press **OK** to confirm and store.

To cancel this function afterwards, select "Off" instead of "Auto" in the step above.

continued...



AV3 OUTPUT

The "AV3 Output" option in the "Detail Set Up" menu allows you to select the source to be output from the Scart connector 3/ 3 so that you can record from this Scart any signal coming from the TV or from an external equipment connected to the Scart connectors 1/ 1 or 2/ 2 or side connectors 4 or 4 and 4.

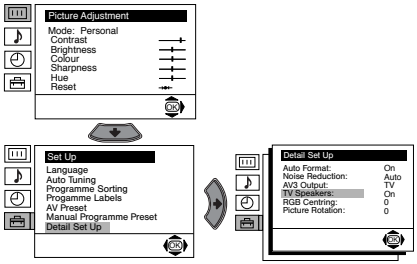
If your VCR supports Smartlink, this procedure is not necessary.

To do this: after selecting the option, press . Then press or to select the desired output signal: **TV, AV1, AV2, AV4, YC4** or **AUTO**.

If you select "AUTO", the output signal will always be the same one that is displayed on the screen.

If you have connected a decoder to the Scart 3/ 3 or to a VCR connected to this Scart, please remember to change back the "AV3 Output" to "AUTO" or "TV" for correct unscrambling.

GB

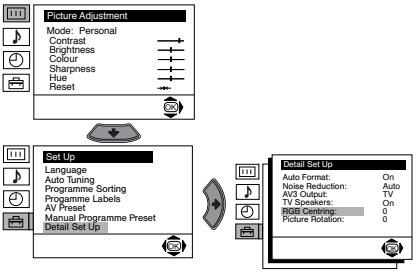


TV SPEAKERS

The "TV Speakers" option in the "Detail Set Up" menu allows you to mute the TV speakers in order to listen to the TV from an external amplifier connected to the audio outputs on the rear of the TV set.

To do this: after selecting the option, press . Then press or to select **Off**. Finally press **OK** to confirm and store.

To cancel this function afterwards, select "On" instead of "Off" in the step above.



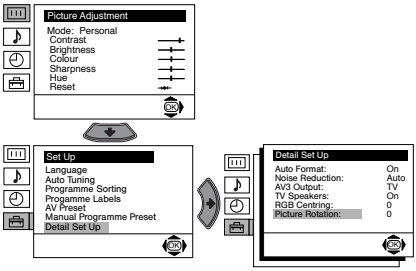
RGB CENTRING

When connecting an RGB source, such as a "PlayStation", you may need to readjust the horizontal position of the picture. If this is the case, you can readjust it through the "RGB Centring" option in the "Detail Set Up".

To do this: while watching an RGB source select the "RGB Centring" option and press . Then press or to adjust the centre of the picture between –10 and +10. Finally press **OK** to confirm and store.

continued...

Level 1	Level 2	Level 3 / Function



PICTURE ROTATION

Because of the earth's magnetism, the picture might slant. If this is the case, you can correct the pictures slant by using the "Picture Rotation" option in the "Detail Set Up" menu.

To do this: after selecting the option, press ➔. Then press ↓ or ↑ to correct any slant of the picture between -5 and +5.

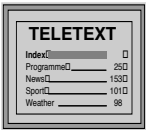
Teletext

Teletext is an information service transmitted by most TV stations. The index page of the teletext service (usually page 100) gives you information on how to use the service. To operate teletext, use the remote control buttons as indicated below.

Teletext errors may occur if you use a channel (TV Broadcast) with a weak signal.

To switch on Teletext :

After selecting the TV channel which carries the teletext service you wish to view, press .



To select a Teletext page:

Input 3 digits for the page number, using the numbered buttons.

- *If you make a mistake, retype the correct page number.*
- *If the counter on the screen continues searching, it is because the page is not available. If this is the case, input another page number*

To access the next or preceding page:

Press **PROG +** ( ) or **PROG -** ( ).

To superimpose teletext on to the TV:

Whilst you are viewing teletext, press . Press it again to cancel teletext mode.

To freeze a teletext page:

Press / . Press it again to cancel the freeze.

To reveal concealed information (e.g: answer to a quiz):

Press / . Press it again to conceal the information.

To select a sub page:

A teletext page may consist of several sub pages. In this case the page number that appears on the upper left corner will change from white to green and one or more arrows will appear next to the page number. Repeatedly press the ◆ or ◆ buttons on the remote control to watch the desired sub page.

To Switch Off Teletext:

Press .

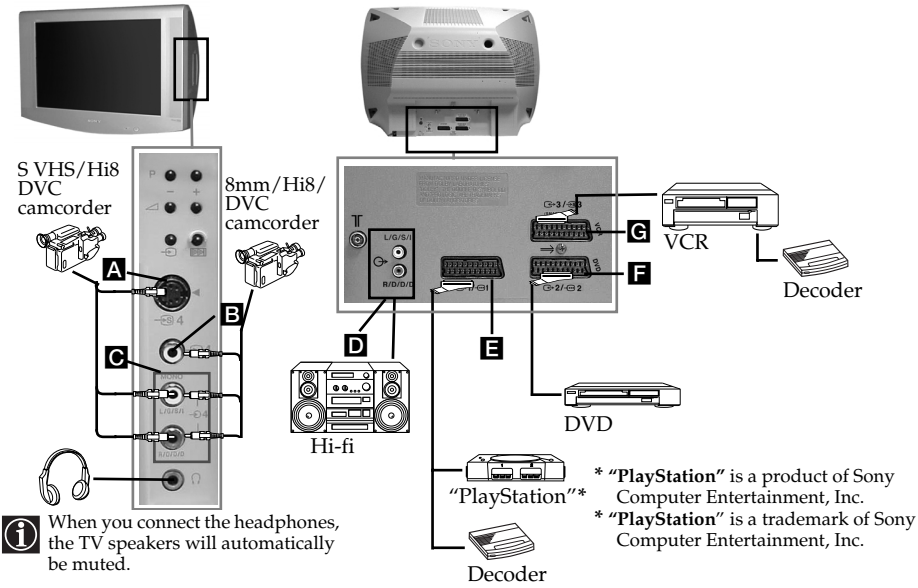
Fastext

Fastext service lets you access Teletext pages with one button push.
When you are in Teletext mode and Fastext is broadcast, a colour coded menu appears at the bottom of the teletext page. Press the appropriate coloured button (red, green, yellow or blue) to access the page corresponding to your menu choice.

GB

Connecting Optional Equipment

Using the following instructions you can connect a wide range of optional equipment to your TV set. (Connecting cables are not supplied).



When you connect the headphones, the TV speakers will automatically be muted.

- To avoid picture distortion, do not connect external equipment to connectors **A** and **B** at the same time.
- Do not connect a Decoder to the Scart **F**.
- Games that use a "gun" attachment to point at the screen do not work correctly due to 100 Hz technology used in this television.

Connecting a VCR:

To connect a VCR, please refer to the section "Connecting the aerial and VCR" of this instruction manual. We recommend you connect your VCR using a scart lead. If you do not have a scart lead, tune in the VCR test signal to the TV programme number "0" by using the "Manual Programme Preset" option. (for details of how to manually programme these presets, see page 13, step a).
Refer to your VCR instruction manual to find out how to find the output channel of your VCR.

Connecting a VCR that supports Smartlink:

Smartlink is a direct link between the TV set and the VCR. For more information on Smartlink, please refer to the instruction manual of your VCR.
If you use a VCR that supports Smartlink, please connect the VCR to the TV using a Scart lead to the Scart 3/ 3 **G**.

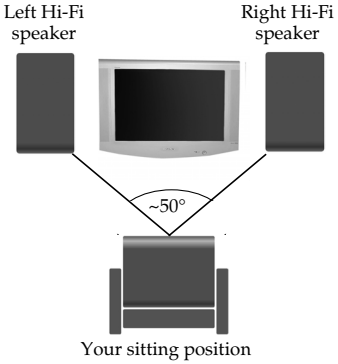
continued...

Connecting to external Audio Equipment:

Plug in your Hi-Fi equipment to the audio output sockets **D** if you wish to amplify the audio output from TV. Next , using the menu system, select the "Set Up" menu, enter the "Detail Set Up" menu and set "TV Speakers" to "Off".

Audio level of the external speakers can be modified by pressing the volume buttons on the remote control. Also treble and bass settings can be modified through the "Sound Adjustment" menu.

To enjoy "Dolby Virtual" sound effect through your Hi-Fi equipment:
Place the speakers of your equipment in front of your listening position and beside the TV set but keeping a distance of 50 cm between each speaker and the TV set. Then by using the menu system, select the menu "Sound Adjustment". Next select "Dolby Virtual" on the "Effect" option.



Using Optional Equipment

1 Connect your equipment to the designated TV socket, as indicated in the previous page.

2 Switch on the connected equipment.

3 To watch the picture of the connected equipment, press the ⇨ button repeatedly until the correct input symbol appears on the screen.

Symbol	Input Signals
⇨1	• Audio / video input signal through the Scart connector **E**
⇨1	• RGB input signal through the Scart connector **E**. This symbol appears only if an RGB source has been connected.
⇨2	• Audio / video input signal through the Scart connector **F**.
⇨2	• RGB input signal through the Scart connector **F**. This symbol appears only if an RGB source has been connected.
⇨3	• Audio/video input signal through the Scart connector **G**.
⇨S 3	• S Video Input signal through the Scart connector **G**. This symbol appears only if an S Video source has been connected.
⇨4	• Video input signal through the phono socket **B** and Audio input signal through **C**.
⇨S 4	• S Video Input signal through the front S Video input jack **A** and Audio signal through **C**. This symbol appears only if an S Video source has been connected.

4 Press ▢ button on the remote control to return to the normal TV picture.

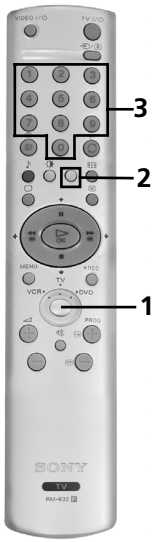
For Mono Equipment
Connect the phono plug to the L/G/S/I socket on the front of the TV and select ⇨4 or ⇨S 4 input signal using the instructions above. Finally, refer to the "Sound Adjustment" section of this manual and select "Dual Sound" "A" on the sound menu screen.

GB

Remote Control Configuration for VCR/DVD

In it's default condition this remote control will operate the basic functions of this Sony TV, Sony DVDs and most Sony VCRs. To control VCRs and DVDs of other manufacturers (and some Sony VCR models), please complete the following steps:

- Before you start, look up the 3 digit code for your brand of DVD or VCR from the list below. On those brands that have more than one code, enter the first code number.
- Sony will endeavour to update the software according to market changes. Therefore, please refer to the code table included with the remote control for the latest code set.



1 Press the Media Selector button on the remote control repeatedly until the required green light (VCR or DVD) is lit.

If Media Selector is on TV position, code numbers will not be stored.

2 Before the green light goes out, press and hold the yellow button for approximately 6 seconds until the green light starts flashing.

3 Whilst the green light is flashing, enter all three digits of the code for your brand of VCR or DVD using the number buttons on the remote control.

If your selected code is entered correctly, all three green lights will be lit momentarily.

4 Turn on your VCR or DVD and check that the main functions work.

- If your device is not working or some of the functions do not work please check that you entered the correct code set or try the next code listed against the brand.
- Your brand codes may be lost if weak batteries are not replaced within a few minutes. To reset your brand of DVD or VCR please repeat the above steps. A small label is added inside the battery door to allow you to record your brand codes.
- Not all brands are covered and not all models of every brand may be covered.

VCR Brand List

Brand	Code
SONY (VHS)	301, 302, 303, 308, 309
SONY (BETA)	303, 307, 310
SONY (DV)	304, 305, 306
AIWA	325, 331, 351
AKAI	326, 329, 330
DAEWOO	342, 343
GRUNDIG	358, 355, 360, 361, 320, 351
HITACHI	327, 333, 334
JVC	314, 315, 322, 344, 352, 353, 354, 348, 349
LG	332, 338
LOEWE	358, 355, 360, 361, 320, 351
MATSUI	356, 357
ORION	328
PANASONIC	321, 323
PHILIPS	311, 312, 313, 316, 317, 318, 358, 359
SAMSUNG	339, 340, 341, 345
SANYO	335, 336
SHARP	324
THOMSON	319, 350
TOSHIBA	337

DVD Brand List

Brand	Code
SONY	001
AIWA	021
DENON	018, 027, 020, 002
GRUNDIG	009, 028, 023, 024, 016, 003
HITACHI	025, 026, 015, 004
JVC	006, 017
KENWOOD	008
LG	015, 014
LOEWE	009, 028, 023, 024, 016, 003
MATSUI	013, 016
ONKYO	022
PANASONIC	018, 027, 020, 002
PHILIPS	009, 028, 023, 024, 016, 003
PIONEER	004
SAMSUNG	011, 014
SANYO	007
SHARP	019, 027
THOMSON	012
TOSHIBA	003
YAMAHA	018, 027, 020, 002

Specifications

TV system:
I

Colour system:
PAL
SECAM, NTSC 3.58, 4.43 (only Video In)

Channel Coverage:
I: UHF B21-B69

Picture Tube:
Flat Display FD Trinitron WIDE:
- KV-32LS60U: 32" (approx. 82 cm. measured diagonally)
- KV-28LS60U: 28" (approx. 71 cm. measured diagonally)

Rear Terminals

1 / **1**	21-pin scart connector (CENELEC standard) including audio/video input, RGB input, TV audio/video output.
2 / **2**	21-pin Scart connector (CENELEC standard) including audio / video input, RGB input, monitor audio/video output.
3 / **3** (SMARTLINK)	21-pin Scart connector (CENELEC standard) including audio / video input, S video input, selectable audio / video output and Smartlink interface.
	audio outputs (Left/ Right) - phono jacks

Side Terminals

4	S Video input – 4 pin DIN
4	video input – phono jack
4	audio input – phono jacks
	headphones jack

Sound Output:
2 x 20 W (music power)
2 x 10 W (RMS)
Woofer:
30 W (music power)
15 W (RMS)

Power Consumption:
KV-32LS60U: 130 W
KV-28LS60U: 125 W

Standby Power Consumption:
0.3 W

Dimensions (w x h x d) :
KV-32LS60U: approx. 892 x 565 x 584 mm.
KV-28LS60U: approx. 806 x 497 x 540 mm.

Weight:
KV-32LS60U: approx. 62.2 Kg.
KV-28LS60U: approx. 45.4 Kg.

Accessories supplied:
1 Remote Control (RM-932)
2 Batteries (IEC designated)

Other features:
- 100 Hz picture
- Teletext, Fastext, TOPtext (250 page TEXT memory)
- Sleep Timer
- Smartlink (direct link between your TV set and a compatible VCR. For more information on Smartlink, please refer to the Instruction Manual of your VCR).
- Dolby Virtual.
- BBE.
- Auto Format.
- ACI (Auto Channel Installation).

GB

Design and specifications are subject to change without notice.

Ecological Paper - Totally Chlorine Free

Troubleshooting

Here are some simple solutions to problems which may affect the picture and sound.

Problem	Solution
No picture (screen is dark) and no sound.	• Check the aerial connection. • Plug the TV in and press the ⏻ button on the front of the TV. • If the standby indicator ⏻ is on, press **TV** |/⏻ button on the remote control.
Poor or no picture (screen is dark), but good sound.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to the factory settings.
No picture or no menu information from equipment connected to the Scart connector.	• Check that the optional equipment is on and press the ⏎ button repeatedly on the remote control until the correct input symbol is displayed on the screen.
Good picture, no sound.	• Press the + button on the remote control. • Check that "TV Speakers" is "On" in the "Detail Set Up" menu. • Check that headphones are not connected.
No colour on colour programmes.	• Using the menu system, select the "Picture Adjustment" menu and select "Reset" to return to factory settings.
Distorted picture when changing programmes or selecting teletext.	• Turn off any equipment connected to the Scart connector on the rear of the TV.
Picture slanted	• Using the menu system, select the "Picture Rotation" option in the "Detail Set Up" menu to correct the picture slant.
Noisy picture when viewing a TV channel.	• Using the menu system, select the "Manual Programme Preset" menu and adjust Fine Tuning (AFT) to obtain better picture reception. • Using the menu system, select the "Noise Reduction" option in the "Detail Set Up" menu and select "Auto" to reduce the noise in the picture.
No unscrambling or unstable picture whilst viewing a scrambled channel with a decoder connected through the Scart connector ⏎3/ ⏎3.	• Using the menu system, select the "Set Up" menu. Then enter to "Detail Set Up" option and set "AV3 Output" to "TV".
Remote control does not function.	• Check that the Media Selector on the remote control is set to the device you are using (VCR, TV or DVD). • If the remote control does not operate the VCR or DVD even when the Media Selector has been set correctly. Enter the necessary code set as explained on "Remote Control Configuration for VCR/DVD" chapter of this instruction manual. • Replace the batteries.
The standby indicator ⏻ on the TV flashes.	• Contact your nearest Sony service centre.

⚠ If you continue to experience problems, have your TV serviced by qualified personnel. Never open the casing yourself.

Television Channel Number Guide for United Kingdom

Only the main transmitters are listed. Information regarding the regional sub-relay channel numbers can be obtained by contacting The BBC Engineering Information Dept., Telephone Number 020 7852 5040.

MAIN TRANSMITTERS	BBC1	BBC2	ITV	CH4	CH5
London & South East					
①Bluebell Hill	40	46	43	65	–
②Crystal Palace	26	33	23	30	–
③Dover	50	56	66	53	–
④Heathfield	49	52	64	67	–
⑤Oxford	57	63	60	53	49
South-West					
⑥Beacon Hill	57	63	60	53	–
⑦Caradon Hill	22	28	25	32	–
⑧Huntshaw Cross	55	62	59	65	67
⑨Redruth	51	44	41	47	37
⑩Stockland Hill	33	26	23	29	–
Channel Islands					
⑪Fremont Point	51	44	41	47	–
South					
⑫Hannington	39	45	42	66	–
⑬Midhurst	61	55	58	68	–
⑭Rowridge	31	24	27	21	–
West					
⑮Mendip	58	64	61	54	37
East					
⑯Sandy Heath	31	27	24	21	39
⑰Sudbury	51	44	41	47	–
⑱Tacolneston	62	55	59	65	52
Midlands (West)					
⑲Ridge Hill	22	28	25	32	–
⑳Sutton Coldfield	46	40	43	50	–
㉑The Wrekin	26	33	23	29	–
Midlands (East)					
㉒Waltham	58	64	61	54	–
Northern Ireland					
㉓Brougher Mountain	22	28	25	32	–
㉔Divis	31	27	24	21	–
㉕Limavady	55	62	59	65	–
North					
㉖Belmont	22	28	25	32	56
㉗Emley Moor	44	51	47	41	37
North-West					
㉘Winter Hill	55	62	59	65	48
North-East					
㉙Bilsdale West Moor	33	26	29	23	–
㉚Caldbeck	30	34	28	32	56
㉛Chatton	39	45	49	42	–
㉜Pontop Pike	58	64	61	54	–
Scotland					
㉝Angus	57	63	60	53	–
㉞Black Hill	40	46	43	50	37
㉟Sandale	22	67	–	–	–
㊱Caldbeck	–	–	28	32	56
㊲Craigkelly	31	27	24	21	48
㊳Darvel	33	26	23	29	–
㊴Durris	22	28	25	32	67
㊵Eitshal (Lewis)	33	26	23	29	–
㊶Keelylang Hill	40	46	43	50	–
㊷Knock More	33	26	23	29	–
㊸Rosemarkie	39	45	49	42	–
㊹Rumster Forest	31	27	24	21	–
㊺Selkirk	55	62	59	65	52
Wales					
㊻Blaenplwyf	31	27	24	21	56
㊼Carmel	57	63	60	53	–
㊽Llanddona	57	63	60	53	–
㊾Moel-y-Parc	52	45	49	42	–
㊿Presely	46	40	43	50	37
(51)Wenvoe	44	51	41	47	–

GB

http://www.world.sony.com/

Printed in UK **Ecological Paper - Totally Chlorine Free**